The Development of Management Model Program of Vocational School Teacher Partnership with Business World and Industry World (DUDI)

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THE DEVELOPMENT OF MANAGEMENT MODEL PROGRAM OF VOCATIONAL SCHOOL TEACHER PARTNERSHIP WITH BUSINESS WORLD AND INDUSTRY WORD (DUDI)

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Abstract

This study aims to: (1) formulate program management model and management model of vocational productive teacher partnership with DUDI; (2) evaluate model performance; (3) examine the effectiveness of collegial decentralization partner management models and formal centralization. This research uses R & D method with the procedure (1) data and information gathering; (2) product design; (3) design validation; (3) trials; (5) implementation and; (6) dissemination. The trial of the partnership management model is 60 vocational teachers participating in the partnership program of 4 expert competencies. The trial subject was determined by cluster random sampling technique. The data on the implementation of partnership program is obtained from the facilitator’s assessment which is then analyzed using One way Anova and Scheffe. The management model of Vocational School productive teacher partnership program with DUDI is formulated using 5 management functions namely planning, organizing, implementing, monitoring, and evaluating (POIME). The result of variance analysis obtained F 102,51 and sig 0,00 <0,05. Anova scheffe advanced test shows no difference in the results of two groups of teachers who apply formalized model of centralization.

Keywords: Management; Partnership; Decentralization; DUDI.
A. Introduction

Vocational education teachers are required to have real work experience and competence derived from the work competencies held in DUDI. The development of science, technology and art (IPTEKS) in DUDI usually runs faster than the development of science and technology in Vocational School so that there is a competency gap of the graduates produced by teachers with the competence needs of DUDI. To reduce the gap, the Directorate of Education and Teaching Education Personnel of Secondary Education (Dit.PPTK Dikmen) has a partnership program between vocational teachers with DUDI.

During the three years (2011-2013) the implementation of the Vocational teacher partnership program with DUDI produced some changes in input, process and output. In 2011 the input program participant was principal and the output demanded was the development of teaching factory / industry in school. This program is less effective because the principal is busy and often delegates tasks to teachers who have no decision-making authority. In 2012 and 2013 program participants' inputs are productive teachers of vocational school and the required output is the improvement of teaching competence. The total number of participant inputs in 2012 is 5 teachers / vocational students from different competency skills. The partnership program management in 2012 is considered less equitable because it only reaches 60 Vocational Schools from all over Indonesia. In 2013, the participant input of the partnership program is 3 teachers / vocational students of the same competency. Management of partnership programs in 2013 is considered less effective because many private Vocational schools lack productive teachers when teachers implement partnership programs (see in Walidin, 2016).

Ideal partnership program management (das sollen) should use functions that refer to a particular management theory. With good management, the workflow becomes clearer so that if there are obstacles and deviation activities outside the plan can be immediately overcome.
The existing partnership program management is experiencing gaps with the expected partnership program management; therefore it is necessary to develop appropriate model formulation for partnership program management and Vocational productive teacher partnership management with DUDI. Partnership program management becomes a reference for the implementation of activities for program owners and partnership management to become a reference for participants of the partnership program (Murniati, et.al., 2016).

Henry and Thompson in Berg (2002: 45) give an analogy of vocational education by learning "how to work". Effective and efficient vocational education is the provision of education that provides real work experience. To provide effective and efficient vocational education, Prosser and Quigley (1950) suggests, among other things: (1) to provide a learning environment appropriate to the environment in which they will work or replicate DUDI which will be where the vocational education graduate will work; (2) the exercise is carried out in the same way, the same operation, the equipment is the same as the type of work to be performed by the graduate; (3) the instructor has had successful experience in applying the knowledge and skills to carry out the work. This principle is more easily implemented if vocational education has cooperation with DUDI.

Based on the above reasons, this study aims to: (1) formulate management model of the program and management model of productive teacher partnership of Vocational School with DUDI that is feasible to be implemented; (2) evaluate the performance (achievement of objectives, product, practicality, service, efficiency and effectiveness) management model of Vocational school productive teacher partnership program with DUDI based on followers perception; (3) examine the effectiveness of program outcomes between the collegial decentralization partnership management model and formal centralization.
B. Method

This research uses R & D method which refers to a model written by Borg and Gall (2007:) with some modifications from 10 to 6 development stages: (1) data and information collection to review the literature and partnership program evaluation result; (2) Planning and product design; (3) design model validation through Delphi and Focus Group Discussion techniques and revision of the 1st model design; (3) Field trials using static group comparison experimental design and product revision; (5) product implementation, evaluation; (6) dissemination of program results and publications. The subject of the formalized model of formalized management is applied by teachers earning the competence of the Hotel Management and Hospitality Accommodation expertise. The collegial decentralization management model is applied by a group of competence teachers of Software Engineering (RPL) and Network and Computer Engineering (TKJ). The model trial subjects were determined using cluster random sampling technique that is by randomly selecting 4 types of competency of vocational teachers of the program participants. Each expert group is represented by 15 people. The results of the model implementation of each subject are assessed by two facilitators so that the data entered in the process of model implementation analysis is 120. To support data collection, obstacles and how to overcome obstacles during the implementation of the program questionnaires, interviews and observation were used. Data from interview and observation were analyzed descriptively evaluative, questionnaire data was analyzed descriptively quantitative. The data of the model implementation results were analyzed using One way Anova.

C. Results and Discussion

The results obtained by the two concepts of management model are program management model and management model of vocational
school teacher partnership with DUDI. In partnership management there are two empirically tested models namely collegial decentralization model and formal centralization. The description of the program management model is as follows:

![Program Management Cycle](image)

**Figure 1: Program Management Cycle**

Management of vocational school teachers’ partnership program with DUDI is implemented with POIME cycles (planning, organizing, implementing, and monitoring and evaluating). Concurrently, at the same time of the implementation of partnership program management model, the partnership management of Vocational school teacher with DUDI that is formal model of centralization and collegial decentralization is also implemented. A description of the collegial decentralization management model is shown in Figure 2.
Figure 2: The Collegial Decentralization Model

Information:

1. The government facilitates the principle of Vocational School with DUDI manager to establish cooperation partnership with Vocational School teachers.

2. The Principle of Vocational School and DUDI managers each assigns its staff to carry out partnership activities through OJT and IHT patterns.

3. The staff of the Vocational School and the assigned DUDI staff plan and implement OJT and IHT activities.

A formal centralized partnership management model is carried out with the steps shown in Figure 3.
(1) The Government invites DUDI and establishes an agreement (MoU) to train Vocational School teachers through OJT and IHT activities;

(2) The government recruits participating teachers of the partnership program upon recommendation from the Principle of Vocational School to follow OJT / IHT with DUDI;

(3) Vocational teachers follow OJT with standard curriculum that has been prepared by DUDI then it ended with the test or competence test.

Model design validation was performed using Delphi technique and focus group discussion (FGD) by education experts. Some of the inputs from the experts used to revise the model include: 1) the writing mechanism and the specific terms need to be improved; 2) the shape of the drawing in the flowchart diagram needs to be adjusted to its function; 3) the connecting line needs to be given information; 4) the use of the term must be consistent; 5) conceptually the model of management model of Vocational School partnership program with DUDI is feasible to support the policy of teacher competency improvement.
After a revised partnership management model was then field-tested on a limited scale in the Agribusiness expertise group which implements collegial decentralization and Sailors implemented formal centralization. Each group was drawn by 15 people at random and each was assessed by two facilitators. The trial uses experimental research with static group comparison design. The effectiveness of the program is seen from the different outcomes of program outcomes.

An assessment instrument of the program results contains 20 items consisting of 10 items of reported activity quality assessment, 3 items of poster rating, 3 point of presentation assessment and 4 item of product assessment. The assessment uses the rating scale method of 5 - 10. The ideal maximum value that can be obtained by the participants is 20x10 = 200 while the minimum value ideally is 20x5 = 100. The assessment of the program results is done by 2 facilitators so that each group has the facilitator data value of 15 x 2 = 30.

The results of the independent analysis of t-test sample obtained t-count of 2.552 and significance (p) of 0. 013 <0.05. The results of these analyzes indicate that there are differences in the outcomes of the partnership program using a collegial decentralization partnership management model as well as formal centralization although the difference is relatively small. The average value of the agribusiness group (147.4) is greater than the Sailing group (140.23).

The trial of the collegial decentralization model within the wider area is applied to the group of Software Engineering (RPL) and Computer and Network Engineering (TKJ) teachers while the formal centralization model is applied to the Group of Business Management (BISMAN) and Hospitality Accommodation (AP) teachers. Descriptive analysis results show the average value of Business Management group 135.73, Accommodation Hospitality 141.50, Software Engineering 166.57, and Computer and Network Engineering 151.37. The distribution of the achievement value of the Business Management group program is shown in Figure 4.
The skewness of Business & Management group is -0.549 which indicates a near-normal curve slope. Mean is at value 135.73 < median 136.0 and mode 136.0. The value distribution of program achievement result of Hospitality Accommodation group is shown in figure 5.
The Skewness of Hotel Accommodation group is -0.933 which indicates the slope of the negative crossover curve. Mean is at value of 141.5 < median 143 and modus is 144. The value distribution of the result of program achievement of Software Engineering group is shown in figure 6.

**SOFTWARE ENGINEERING**

![Figure 6: Distribution of RPL Group Program Achievement Values](image)

The RPL group skewness is -0.755 which indicates a positive cross-sectional curve. This shows that the location of the mean is 166,57 > median 166 > mode is 158. The value distribution of program achievement result of software engineering group is shown in figure 7.

**COMPUTER AND NETWORK ENGINEERING**

![Figure 7: Distribution of the Achievement Value of Compute and Network Engineering Group Program](image)
The skewness of the TKJ group of -0.174 is between -0.5 to 0.5 which indicates the slope of the curve close to normal. The median lies at a value of 150 which is around mean 151.37 and mode 148. To test the hypothesis "there is a difference in the results of the partnership program with DUDI between productive teacher groups applying the collegial decentralization model and formal centralization" is done using one way analysis of variance (ANOVA) and post hoc ANOVA using Scheffe. The result of variance homogeneity analysis using Levene Statistic is obtained sig. of 0.212> 0.05 so that the variance can be declared homogeneous. The result of variance analysis obtained F count equal to 102.51 with sig. 0.00 <alpha set 0.05 so that Ha accepted and Ho rejected. It can be concluded that "there is a difference of partnership program results with DUDI between 4 groups of productive teachers who are compared. The result of Scheffe analysis shows that there are only two groups that are not significantly different, that are Group of Hotel Management and Hotel Accommodation skill teachers with group distance of 5.77.

The partnership program management model follows the planning, organizing, implementation, monitoring and evaluation cycle. Resources managed in program management include human resources, materials, money, and time. The results of the implementation of partnership program management model are reported as follows: Implementation of planning functions carried out by activities: (1) planning tasks and responsibilities of each activity; (3) material planning workshop program briefing; (3) machine planning in the form of guidebook / guide and research instrument; planning of accommodation facilities for program participants; and time planning (minute) which includes the draft schedule (place and time) of the workshop activities.

Organizing the program begins with a reflection of the program's plans and objectives, establishes the core tasks of each human resource to avoid duplication, conflict and resource misuse; compile a logical workflow and can be passed by every individual in the implementation of
the program. In this study, a dynamic organic organizational structure is set as in Figure 8:

![Organizational Structure of Vocational School Teacher Partnership Program](image)

**Figure 8: Organizational Structure of Vocational School Teacher Partnership Program**

The organizational structure of the Vocational School teacher partnership program with DUDI consists of a chief executive officer (CEO) who has program and administration deputies. Deputy programs manage the program's academic substance and quality assurance. The deputy administration manages the personnel, finances, transportation, accommodation of participants and internal affairs of the household (RT) of the organization. Expert is the resource persons and facilitators who are freelancers that are only responsible to the leadership of the program in guiding the course of activities. Experts do not have staff like other deputies.

The implementation of the program is done with the following steps:

1) Selection of subject from prospective participants of Vocational School teacher partnership program with DUDI;
2) Socialization of the model to prospective participants / research subjects;
3) The grounding and preparation of the implementation plan of formal partnership management model of centralized and collegial decentralization;
4) Implementation of partnership management model using OJT pattern in DUDI and IHT in Vocational School;

5) Exposure of partnership results through OJT and IHT patterns. At the time of this presentation, the outcomes of the participant partnership program were assessed by two facilitators and tested for their effectiveness.

Monitoring is done during the research subject to implement the partnership program. When the subject (teacher) performs the OJT, the instructor from the DUDI is asked to observe and assess the teacher's performance. The perceived performance includes: (1) following the activity in earnest; (2) complete the task with full responsibility; (3) comply with the prevailing rules/working procedures; (4) keeping the agreed time and promise; (5) able to cooperate with fellow OJT participants and employees of DUDI; (6) learn new knowledge or skills passionately/enthusiastically; (7) has many initiatives to take advantage of learning opportunities; (8) deft/skilled in work/practice; (9) able to work with the correct procedure; (10) the results of the work meet DUDI quality standards. The average value of the lowest point of performance appraisal is on the initiative item. The habits of teachers who only accept and obey the orders of superiors cause many weak teachers to take the initiative to take advantage of learning opportunities.

After implementing OJT, Vocational School teachers have the responsibility to disseminate and implement OJT results in Vocational School. Behaviors observed by the principal to assess this include: (1) delivering OJT results to other teachers; (2) applying new Science and Technology (IPTEK) from DUDI; (3) improving the quality of the learning process; (4) preparing new materials/materials in accordance with the material studied in the DUDI; (5) developing innovative learning media; (6) adding excited teaching/work; (7) improving curriculum and syllabus; (8) completing the learning device; (9) developing a production/service unit; (10) holding IHT workshop. Of the 10 changes observed, only the development of production units has not been done by all teachers (60%), because not all teachers are involved in the management of production units.
Evaluation is carried out on the implementation of program management functions during the program and program performance measurement after program implementation. An outline of the evaluation of the implementation of the program management function can be illustrated in Figure 9.

The results of data analysis of the average scores of partnership program performance are reported by the groups supporting the collegial decentralization model (DK), formal centralization (SF), and supporting both (TWO). The average performance of the collegial decentralization model program by the three target groups was reported on:
The data in the figures show differences in perceptions of the performance of collegial decentralization partner management models according to the groups supporting decentralization (DK) and formal centralization by the supportive centralized (SF) group. In the collegial decentralization model, performance considered superior to formal centralization is on the practicality indicator (3.05) of model effectiveness to improve teacher teaching competence (3.02) and efficiency (2.92). In the formal centralized model, the perceived superior performance was on practical indicators (2.99), product (2.91) and service (2.83). The indicator of goal achievement in both models is still considered less (> 2.5).

Participants of collegial decentralization partners agreed on the place, material, time, cost and learning model determined on their own accord based on agreement, but they objected to paying the instructor's own fee (2.14) and not learning more varied material (1.66). In this case the participants are less consistent and only choose the things that are profitable only.

Participants who apply the formal centralized model strongly agree to the provisions contained in the model: where OJT is set by the supervisor (3.33) so that participants do not need to look for OJT's own place. Formal / regular OJTs allow opportunities to end with a competency test so participants get certificates after OJT (3.27). But they disagree if OJT time is not negotiable (2.2) as it relates to many people (classical); (c) the location of a centralized OJT is usually far away from the school so that it costs its own transportation and lodging (2.13). Time to complete one learning goal is not the same because the learning speed of each participant is not the same (1.93).

The background of the competence of Vocational School teachers' skills influences perceptions of the partnership management model. Skill competency types that have standard operational procedures (SOP = Standard Operating Procedure) such as Hospitality Accommodation, Office Administration, and Pharmacy prefer a formal centralized model. The material that this expert group studied is relatively similar, although
the OJT places are different. For example: teacher of Vocational School competence.

The collegial decentralization model is preferred by Vocational School teachers of Agribusiness, Software Engineering, Computer and Network Engineering, Multimedia, Broadcasting, Art, Design and Production of Kriya Kayuya / Textile Art, etc. They chose a collegial decentralization program because the subjects taught in Vocational School is different.

By looking at the characteristics data of participants who support and not support the formalized management model of centralization and collegial decentralization, thus, the type of competence of expertise needs to be considered in choosing the program objectives. The objective of the formal centralization model is the group of skill programs that employ a lot of standardized work procedures and other skill competencies free to choose the model.

E. Conclusion

There are three models that successfully formulated; program management model, partnership management model and partnership model of Vocational School teacher with DUDI.

Formulation of management model of Vocational School productive teacher partnership program with DUDI uses 5 managements; planning, organizing, implementing, monitoring, and evaluating (POIME) functions. The partnership management is integrated in the implementation phase of the productive partnership management program model of Vocational School Teacher with DUDI. The management team monitors activities to know the implementation of the program, asks for barriers and support, and assesses the performance of teachers during and after implementing the partnership. The results of the program are assessed at the time of dissemination to evaluate the effectiveness or achievement of the objective of Vocational School productive teacher partnership program with DUDI.
The management model of Vocational School productive teacher partnership with DUDI is formulated in two models: collegial decentralization and formal centralization. The partnership model of Vocational School teachers with DUDI follows the OJT (on the job training) pattern. Collaborative decentralization model management has the following characteristics: place, material, time, method, resource and cost of partnership arranged by agreement based on agreement between teacher and DUDI; Formal centralized partnership management partnership has the characteristics of partnership done in DUDI that organizes formal education and training package, where place, time, method, material has been set by DUDI so that participants only choose the appropriate package.

The perceptions of the subject of the program participants on the performance of the management model can be summarized as follows: (a) the collegial decentralization management model is stated to be more practical (3.05), efficient (2,92) and effective (3.02); (b) formal centralized model is superior in product (2.91) and service (2.99); (c) both partnership management models are still in doubt to achieve the expected goal (> 2.5).

There is a difference in program outcomes between the subjects of program participants who apply the collegial decentralization management model of partnership and formal centralization. The results of the analysis of the calculated F variant is 102.508 and sig 0.00 <alpha 0.05. Further test results using the Scheffe method anova group of teachers expertise package Business Hotel Management and Accommodations that apply the formal centralized management model has no difference in the results of the program because it only has a mean difference of -5.77. Based on the results of descriptive analysis, the group of Software Engineering skill teachers and the group of teachers of Computer and Network Engineering expertise package applying the collegial decentralization model achieved higher mean values than the teacher groups by applying the formal centralized management model. This
suggests that the collegial decentralization partnership management model is more effective than the formal centralized partnership management model.

Based on the findings in the following conclusions it is suggested to: (1) The Directorate of Teachers and Educators uses a complete program management model that includes monitoring and evaluation. The Government continues the partnership management model that is in line with the characteristics of the program participants. Collegial decentralization management model of partnership is more suitable to apply to skill packages that have varied characteristics, creative competence. A formal centralized partnership management model is more suitable to apply to the skill packages that have SOPs in completing the work; (2) program managers can use the collegial decentralized partnership management model because this model is more practical in its implementation, efficient financing and effective outcomes according to the individual needs of teachers to be applied in schools; (3) Vocational School teachers are advised to always follow the development of science and technology that occurs today, especially science and technology in learning; (4) DUDI and Vocational School teachers are expected to continue the partnership program and follow up on the results of the partnership program that the teacher has achieved.

Bibliography


